CLAIMS APPENDIX

1. A three dimensional object creation system for printing a three dimensional object comprised of layers stacked vertically with respect to each other, the system comprising:

a series of printheads for printing the layers, the series of printheads simultaneously printing at least two layers of different vertical positions within the stack; and

a semiconductor memory for storing data defining at least one layer, wherein

the system is operable to reconfigure a printhead initially configured to print a layer at a first vertical position to print a layer at a second vertical position.

2. The system of claim 1 wherein data defining all of the layers is stored in the semiconductor memory.

3. The system of claim 1 wherein each printhead includes at least some of the semiconductor memory.

4. The system of claim 1 wherein the semiconductor memory of each printhead stores data relating to at least the part of the layer printed by the printhead.

5. The system of claim 1 wherein the semiconductor memory of each printhead stores data relating to at least part of at least another layer.

6. The system of claim 1 wherein the semiconductor memory of each printhead stores data relating to at least part of the previous layer compared to the layer currently being printed by the respective printhead.

7. The system of claim 1 including data links between printheads.

8. The system of claim 1 including about 10 Gbytes of semiconductor memory.

9 - 10. (Cancelled)

11. The system as claimed in claim 1 wherein the printheads print two or more different materials in one layer.

12. The system as claimed in claim 11 wherein the printheads are configured such that at least one of the layers may be printed with a first set of materials and at least another one of the layers may be printed with a second set of materials, and the first and second sets are not the same.

13 - 16. (Cancelled)

17. The system as claimed in claim 11 including a least two printheads, a first one of the printheads printing a first material and a second one of the printheads printing a second material, the first material being cured by a first method and the second material being cured by a second method and wherein the first and second methods are different.

18. The system as claimed in claim 1 including at least one printhead for printing material to create a printed product, and an object incorporation device that incorporates inorganic semiconductors into the product being printed whilst the at least one printhead prints the

product.

19. The system as claimed in claim 1 including at least one object incorporation device that incorporates non-printed objects into partially completed product, the non-printed objects not being printed by the system.

20. The system as claimed in claim 1 including an object incorporation device that inserts at least one non-printed object into at least one cavity created during the printing process, the object incorporation device incorporating the at least one non-printed object into the at least one cavity during the printing of the respective printed object.

21. The system as claimed in claim 1 including at least one printhead that prints electrical connections to at least one object incorporated in the products.

22. The system according to claim 1, wherein upon failure of printhead whilst printing its respective layer, each subsequent printhead is dynamically reconfigured to complete the printing of at least part of the layer preceding its respective layer.